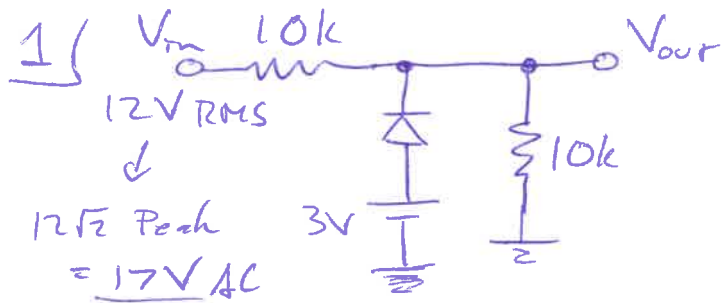


# PHYS 251 Diode homework handout



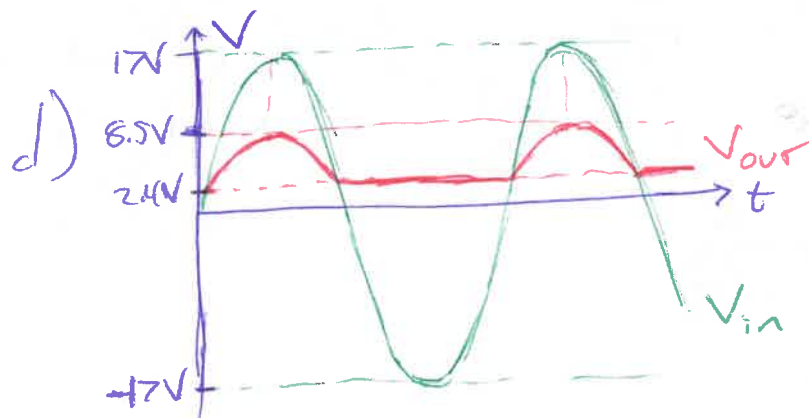
a) If diode off  $\Rightarrow$  voltage divider!

$V_{out} = \frac{1}{2} V_{in}$

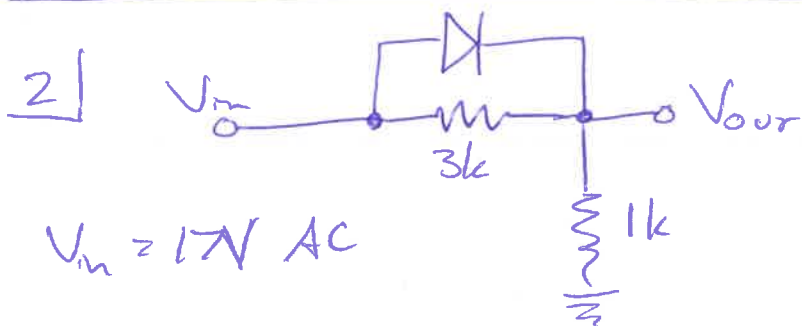
b) If diode on  $V_{out}$  directly connected thru diode to +3V

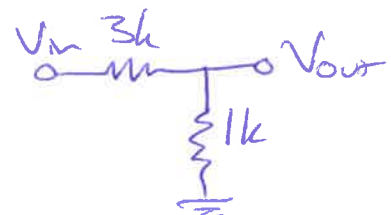
$3V - 0.6V = V_{out}$  so  $V_{out} = 2.4V$

c) diode on if  $V_{in} < 2.4V$



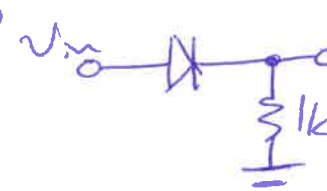
# PHYS 251 Diode handout page 2



If diode off, voltage divider! 

$$V_{out} = \frac{1}{4} V_{in}$$

Diode off if  $V_{in} < 0.6V$

If diode on,   $V_{out} = \underline{V_{in} - 0.6V}$

Diode on if  $V_{in} > 0.6V$

